Operational FQT Report : 13-Mar-2014
STENA PRIMORSK (9299147)

Summary

Based on the Aluminium + Silicon result(s), operational difficulties may be experienced. Based on the Sulfur result(s) and the commercial sample received, the fuel is potentially non-compliant. Please refer to the advice on the next page for more information.

△ Please take note of the precautions on the next page related to the fuel quality trend of the past four bunker samples

Sample Number	HOU1406630	**Customer**	NORTHERN MARINE MANAGEMENT
Product Type	(LSFO)	**Seal Data**	DNVPS, SEAL INTACT, 5230127
Bunker Port	MARCUS HOOK		
Bunker Date	07-Mar-2014	**Related Samples**	
Sampling Point	SHIP MANIFOLD	**Supplier**	5230128
Sampling Method	CONTINUOUS DRIP	**Ship**	5230129
Sent From	LESTER, PA	**MARPOL**	01201110
Date Sent	11-Mar-2014		
Arrived at Lab	12-Mar-2014		
Supplier	GLOBAL		
Loaded From	DS-306		
Quantity per C.Eng.	250		

Receipt Data

Source Of Data	B.D.N.		**Sulfur**	0.989	% m/m
Density @ 15°C	989.7	kg/m³	**Volume @ 60°F**	1595.090	bbl
Viscosity @ 50°C	245.0	mm²/s	**Quantity**	250.590	MT

Fuel Quality

Current	Trend	Parameter	**MARCUS HOOK 07-Mar-2014**	HOU1406042 FREEPORT (BS) 28-Feb-2014	ROT1405701 OFF GABON 26-Jan-2014	ROT1344716 GOTHENBURG 22-Nov-2013	Unit
		Density @ 15°C	**989.2**	990.2	990.8	989.1	kg/m³
		Viscosity @ 50°C	**250.7**	304.3	381.2	345.5	mm²/s
		Water	**0.1**	0.2	0.2	0.2	% V/V
		Micro Carbon Residue	**13**	14	15	16	% m/m
▭		Sulfur	**1.08**	2.88	2.28	2.43	% m/m
		Total Sediment Potential	**0.02**	0.04	LT 0.01	0.02	% m/m
		Ash	**0.05**	0.07	0.05	0.05	% m/m
		Vanadium	**25**	175	170	155	mg/kg
		Sodium	**46**	31	26	25	mg/kg
		Iron	**41**	15	47	50	mg/kg
		Nickel	**41**	43	44	39	mg/kg
		Calcium	**14**	14	2	LT 1	mg/kg
		Magnesium	**5**	2	LT 1	LT 1	mg/kg
		Zinc	**3**	2	1	LT 1	mg/kg
		Phosphorus	**2**	2	LT 1	LT 1	mg/kg
		Potassium	**2**	1	LT 1	LT 1	mg/kg
		Pour Point	**LT 24**	LT 24	LT 24	LT 24	°C
		Flash Point	**GT 70**	GT 70	GT 70	GT 70	°C
▭	△	Aluminium + Silicon	**48**	45	11	5	mg/kg
		CCAI (Ignition Quality)	**855**	853	852	851	-
	Reported problems with fuel			No	No	No	

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Operational Advice :

	Sulfur - Based on this commercial sample and the sulfur content specified on the BDN, the fuel oil is potentially non-compliant if used within a designated Emission Control Area (ECA, ref. MARPOL Annex VI Reg. 14(4)). It is recommended that the situation is recorded through a notification or Note of Protest (NoP) issued by the Master. Only the relevant official authorities can then advise on any further action necessary. Please note that the official MARPOL sample provided by the supplier is the governing sample regarding the compliance with this statutory requirement. For assistance issuing the Note of Protest, please refer to DNVPS' Instruction Manual.
▭	Fuel contains abrasive contaminants as indicated by Aluminium + Silicon. Efficient centrifuging of the fuel is most important in order to reduce the abrasive contaminant to an acceptable level. Maintain fuel temperature at 98°C at separator inlet and use reduced flow rate. Consider to operate separators in parallel. Please refer to manufacturers instructions for further information. Based on Aluminium + Silicon content, we recommend to send a set of FSC samples to assess the efficiency and confirm optimum operation of the fuel treatment plant. As a minimum, representative samples taken before and after the separators are required for this assessment. Red labels should be used for the FSC samples. Please refer to the Instruction Manual included in the sample kits for more detailed information.
△	Noticeable amount of abrasive contaminants as indicated by Aluminum + Silicon can accumulate in the tanks onboard also for fuels within specification. It is recommended that tanks and filters are frequently drained to avoid carry over to the engine. We also recommend that samples are taken regularly before and after centrifuge to check centrifuge efficiency (Fuel System Check testing). Note: Extra sample not attached for compatibility testing.

	Approximate fuel temperatures: Injection: 135°C for 10 mm²/s 120°C for 15 mm²/s 110°C for 20 mm²/s 100°C for 25 mm²/s Transfer : 35°C

DNVPS Colour Code used :

✔ Satisfactory ▭ Caution ✘ Use of fuel not recommended △ Fuel Trend

Note:
LT means Less Than, GT means Greater Than.
Quantity (Weight) is based on BDN Volume, DNVPS Density and a weight factor of 1.1 kg/m³ (ASTM D1250-80 Table 56).

Best Regards,
On behalf of DNV Petroleum Services Pte Ltd
Leonardo Alphonso
Technical Advisor

End of Report for STENA PRIMORSK

For technical or operational advice or further information on this report please contact your nearest DNVPS office or contact us directly at Tel : +1 (281) 470 1030 Email : Houston@dnvps.com